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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-1026; Project Identifier MCAI-2020-00745-R]

RIN 2120-AA64

Airworthiness Directives; Leonardo S.p.a. Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2020-13-02, which applies to certain Leonardo S.p.A. Model A119 and AW119 MKII helicopters. AD 2020-13-02 requires inspecting for movement and the tightening torque of the tail rotor (T/R) plug, the installation of the outboard and inboard faces of the T/R duplex bearing, and the condition of the T/R duplex bearing, T/R plug threads, and nut threads. Depending on the inspection results, AD 2020-13-02 requires corrective actions and reporting information. Since the FAA issued AD 2020-13-02, Leonardo S.p.a. issued updated service information. This proposed AD would retain the requirements of AD 2020-13-02 except the reporting requirement, update the service information, and require repeating the inspection. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to https://www.regulations.gov. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-1026; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the European Union Aviation Safety Agency (EASA) AD, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at https://www.leonardocompany.com/en/home. You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

FOR FURTHER INFORMATION CONTACT: David Hatfield, Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email

david.hatfield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2020-1026; Product Identifier MCAI-2020-00745-R" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposal.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to David Hatfield, Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch,

FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email david.hatfield@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2020-13-02, Amendment 39-21147 (85 FR 37551, June 23, 2020) (AD 2020-13-02), for Leonardo S.p.A. (Leonardo) Model A119 and AW119 MKII helicopters with a T/R duplex bearing part number (P/N) 129-0160-11-103 installed. AD 2020-13-02 was prompted by EASA Emergency AD No. 2019-0194-E, dated August 9, 2019 (EASA AD 2019-0194-E), which stated that preliminary investigation of a Model AW119 MKII helicopter accident identified a disassembled connection between the yaw control input lever and the rotating input shaft, partial presence of spalling on the T/R duplex bearing inner races, and missing plug and related lockwire. EASA advised that this condition, if not corrected, could lead to functional failure of the T/R pitch change mechanism, resulting in loss of control of the helicopter. EASA considered EASA AD 2019-0194-E an interim action and stated further AD action may follow.

AD 2020-13-02 requires inspecting the T/R plug for movement and its tightening torque measurement, inspecting the installation of the outboard and inboard faces of the T/R duplex bearing, and inspecting the condition of the T/R duplex bearing, T/R plug threads, and nut threads. Depending on inspection results, AD 2020-13-02 requires removing the affected parts from service and reporting the inspection findings to Leonardo. For some of these actions, AD 2020-13-02 requires following the procedures in Leonardo Helicopters Emergency Alert Service Bulletin (EASB) No. 119-100, dated August 7, 2019 (EASB 119-100). AD 2020-13-02 also prohibits installing a T/R duplex bearing unless it had been inspected. The FAA issued AD 2020-13-02 to prevent structural failure of the T/R assembly, loss of T/R pitch change control, and subsequent loss of control of the helicopter.

Actions Since AD 2020-13-02 Was Issued

Since the FAA issued AD 2020-13-02, EASA has issued EASA AD No. 2020-0128, dated June 4, 2020 (EASA AD 2020-0128), to supersede EASA AD 2019-0194-E. EASA advises that Leonardo has determined that additional serial-numbered helicopters are affected by the unsafe condition. EASA also advises that Leonardo canceled EASB 119-100 and instead included the repetitive inspections in the maintenance manual (MM). Accordingly, EASA AD 2020-0128 partially retains the requirements of EASA AD 2019-0194-E and expands the applicability.

In addition, Leonardo replaced EASB 119-100 with EASB No. 119-105, currently at Revision A, dated June 3, 2020 (EASB 119-105 Rev A). EASB 119-105 Rev A expands the effectivity by identifying additional serial-numbered helicopters and omits the long-term and on-condition repetitive inspections that have been incorporated into the MM.

AD 2020-13-02 did not require repeating the inspection of the T/R duplex bearing installation every 200 hours time-in-service (TIS), as there was sufficient time to allow for notice and comment prior to this long-term action going into effect. The FAA has determined that repeating the inspection is needed to address this unsafe condition. Although Leonardo has added this action to the MM, the FAA must mandate it through an AD in order to require it for all operators. Accordingly, the FAA has included this long-term requirement in this proposed AD.

Comments to AD 2020-13-02

After AD 2020-13-02 was published, the FAA received comments from three individual commenters. The following presents the comments received and the FAA's response to each comment.

Requests

Request: Two commenters requested the FAA update the references in AD 2020-13-02, as EASB 119-100 has been canceled and EASA AD 2019-0194-E has been superseded by EASA AD 2020-0128. The commenters proposed referencing the new EASB 119-105.

FAA's Response: The FAA agrees. This NPRM reflects the changes proposed by the commenters.

Request: One commenter requested the AD allow credit for previous compliance with either EASB 119-100 or EASB 119-105.

FAA's Response: The FAA agrees. In this NPRM, the FAA has proposed to require using EASB 119-105 instead of EASB 119-100. Paragraph (e) of the proposed AD would require compliance unless already done. Thus, the proposed AD allows operators to take credit for actions using EASB 119-105 if done before the effective date of the AD. This NPRM also proposes to allow credit for previous actions accomplished using the procedures specified in EASB 119-100.

FAA's Determination

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA is proposing this AD after determining that the unsafe condition described previously is likely to exist or develop on other helicopters of these same type designs.

Related Service Information Under 1 CFR part 51

The FAA reviewed EASB 119-105 Rev A, which specifies a one-time inspection of the tightening torque of T/R plug P/N 129-0160-45-103, and a one-time inspection for correct installation of the inboard and outboard faces of T/R duplex bearing P/N 129-0160-11-103, for damage to the threads of the T/R plug and nut P/N MS17825-7, and of the T/R duplex bearing for roughness, ease of rotation, and presence of brinelling, spalling, chipping, and flaking or traces of overheating of bearing balls, and general damage to races.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA reviewed EASB 119-100, which specifies the same procedures as EASB 119-105 Rev A, except EASB 119-100 also specifies repeating the inspection for correct installation of the inboard and outboard faces of T/R duplex bearing P/N 129-0160-11-103, for damage to the threads of the T/R plug and nut P/N MS17825-7, and of the T/R duplex bearing for roughness, ease of rotation, and presence of brinelling, spalling, chipping, and flaking or traces of overheating of bearing balls, and general damage to races in conjunction every 200 hours TIS or at any removal, installation, or disassembly of the T/R duplex bearing.

The FAA also reviewed Leonardo Helicopters EASB No. 119-105, dated May 18, 2020, which contains the same procedures as EASB 119-105 Rev A, except EASB 119-105 Rev A applies to additional serial-numbered helicopters.

Proposed AD Requirements in this NPRM

This proposed AD would retain all of the inspection requirements and the installation prohibition of AD 2020-13-02. This proposed AD would also require repeating the inspection for presence of the P/N and S/N markings of the outboard and inboard faces of T/R duplex bearing every 200 hours TIS. This proposed AD would not require reporting any inspection results.

Differences between this Proposed AD and the EASA AD

The EASA AD is applicable to certain serial-numbered Model A119 and AW119MKII helicopters, whereas this proposed AD would apply to Model A119 and AW119 MKII helicopters with a T/R duplex bearing P/N 129-0160-11-103 installed instead. The EASA AD requires inspecting the tightening torque of the T/R plug in the range of 30.5-33.9 Nm, whereas this proposed AD would require inspecting the tightening torque of the T/R plug to a minimum of 30.5 Nm instead. This proposed AD would require repeating the inspections for the presence of the P/N and S/N markings, for rough rotation, brinelling, spalling, chipping, flaking, evidence of overheated bearing balls, and damage to the races, and for damaged threads of the T/R plug and nut, at intervals not to exceed 200 hours TIS, whereas the EASA AD does not require repeating these inspections. The EASA AD requires inspecting the threads of nut P/N MS17825-7 for damage, but does not state what to do if the threads have damage. This proposed AD would require inspecting for damage to the threads of the nut indicated by uneven threads, missing threads, or cross-threading, and if the nut has any damaged threads, removing the nut from service.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 89 helicopters of U.S. Registry. Labor rates are estimated at $85 per work-hour. Based on these numbers, the FAA estimates that operators may incur the following costs in order to comply with this proposed AD.

Inspecting the tightening torque of the T/R plug would take about 0.5 work-hour for an estimated cost of $43 per helicopter and $3,827 for the U.S. fleet.

Inspecting for correct installation of the outboard and inboard faces of the T/R duplex bearing and the condition of the T/R duplex bearing, T/R plug threads, and nut threads would take about 2 work-hours for an estimated cost of $170 per helicopter and $15,130 for the U.S. fleet, per inspection cycle.

Assembling and installing the T/R duplex bearing assembly would take about 2 work-hours for an estimated cost of $170 per helicopter and $15,130 for the U.S. fleet, per inspection cycle.

If required, the parts for replacing the T/R duplex bearing, internal spacer, external spacer, bearing liner assembly, and T/R control rod would cost about $4,200, and parts for replacing the T/R plug would cost about $171.

The FAA has included all known costs in this cost estimate. According to Leonardo, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify that this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866,

2. Would not affect intrastate aviation in Alaska, and

3. Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2020-13-02, Amendment 39- 21147 (85 FR 37551, June 23, 2020); and

b. Adding the following new airworthiness directive:

Leonardo S.p.a.: Docket No. FAA-2020-1026; Project Identifier MCAI-2020-00745-R.

(a) Applicability

This airworthiness directive (AD) applies to Leonardo S.p.a. Model A119 and AW119 MKII helicopters, certificated in any category, with a tail rotor (T/R) duplex bearing part number (P/N) 129-0160-11-103 (T/R duplex bearing) installed.

(b) Unsafe Condition

This AD defines the unsafe condition as structural failure of the T/R assembly, possibly due to an incorrect installation. This condition could result in loss of T/R pitch

change control and subsequent loss of control of the helicopter.

(c) Affected ADs

This AD replaces AD 2020-13-02, Amendment 39- 21147 (85 FR 37551, June 23, 2020) (AD 2020-13-02).

(d) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(e) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) Required Actions

(1) Within 10 hours time-in-service (TIS), remove the lockwire that secures the T/R plug P/N 129-0160-45-103 (T/R plug) to the bearing liner assembly P/N 109-0135-16-101 (bearing liner assembly). Without loosening the T/R plug first, inspect the tightening torque of the T/R plug by increasing the torque up to 30.5 Nm and inspect for any movement the moment torque is applied.

(i) If there is no movement and the tightening torque is at least 30.5 Nm, before further flight, install lockwire by following the Accomplishment Instructions, part I, paragraph 4, of Leonardo Helicopters Emergency Alert Service Bulletin (EASB) No. 119-105, Revision A, dated June 3, 2020 (EASB 119-105 Rev A).

(ii) If there is any movement or the tightening torque is less than 30.5 Nm, before further flight, comply with paragraph (f)(2) of this AD.

(2) Within 50 hours TIS, unless required before further flight by paragraph (f)(1)(ii) of this AD, and thereafter at intervals not to exceed 200 hours TIS, inspect to determine whether the P/N and serial number (S/N) are visible on the outboard and inboard faces of the T/R duplex bearing by following the Accomplishment Instructions,

part II, paragraphs 4 through 13 (except paragraphs 9.1, 13.1, and 13.2), of EASB 119-105 Rev A. Instead of the excluded steps, do the following:

Note 1 to paragraph (f)(2): You are not required to discard parts and you may use equivalent tooling to that identified in EASB 119-105 Rev A.

(i) If the P/N and S/N markings are visible on the outboard or inboard face of the T/R duplex bearing, before further flight, remove from service the T/R duplex bearing, internal spacer P/N 129-0160-43-101 (internal spacer), external spacer P/N 129-0160-44-101 (external spacer), bearing liner assembly, and T/R control rod P/N 109-0135-02-101 (T/R control rod).

(ii) If the P/N and S/N markings are not visible on the inboard face of the T/R duplex bearing, before further flight, inspect the T/R duplex bearing, T/R plug, and nut by following the Accomplishment Instructions, part II, paragraphs 14 and 15 (but not paragraphs 15.1 through 15.2), of EASB 119-105 Rev A. For purposes of this inspection, damage to the races may be indicated by non-movement of the inner race, movement of the outer race, deformation, roughness, or incorrect installation; and damage to the threads of the T/R plug and nut may be indicated by uneven threads, missing threads, or cross-threading.

(A) If the T/R duplex bearing has any rough rotation, brinelling, spalling, chipping, flaking, evidence of overheated bearing balls, or damage to the races, before further flight, remove from service the T/R duplex bearing, the internal spacer, the external spacer, the bearing liner assembly, and the T/R control rod.

(B) If the T/R plug or nut has any damaged threads, before further flight, remove from service the affected part.

(C) Reassemble the T/R duplex bearing assembly by following the Accomplishment Instructions, part II, paragraphs 16 through 31, of EASB 119-105 Rev A.

(3) As of the effective date of this AD, do not install a T/R duplex bearing P/N 129-0160-11-103 on any helicopter unless you have complied with the requirements in paragraph (f)(2) of this AD.

(g) Credit for Previous Actions

(1) Accomplishment of AD 2020-13-02 before the effective date of this AD is considered acceptable for compliance with paragraph (f)(1) and the initial inspection required by paragraph (f)(2) of this AD.

(2) Actions accomplished before the effective date of this AD in accordance with the procedures specified in Leonardo Helicopters EASB No. 119-100, dated August 7, 2019, or Leonardo Helicopters EASB No. 119-105, dated May 18, 2020, are considered acceptable for compliance with the corresponding actions specified in paragraph (f)(1) and the initial inspection required by paragraph (f)(2) of this AD.

(h) Special Flight Permits

Special flight permits are prohibited.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Rotorcraft Standards Branch, FAA, may approve AMOCs for this AD. Send your proposal to: David Hatfield, Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, the FAA suggests that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

(j) Additional Information

(1) Leonardo Helicopters EASB No. 119-100, dated August 7, 2019, and Leonardo Helicopters EASB No. 119-105, dated May 18, 2020, which are not incorporated by reference, contain additional information about the subject of this AD. For service information identified in this AD, contact Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at https://www.leonardocompany.com/en/home. You may view a copy of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

(2) The subject of this AD is addressed in European Union Aviation Safety Agency (EASA) AD No. 2020-0128, dated June 4, 2020. You may view the EASA AD on the Internet at https://www.regulations.gov in the AD Docket.

(k) Subject

Joint Aircraft Service Component (JASC) Code: 6400, Tail Rotor System.

Issued on November 9, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-25322 Filed: 11/17/2020 8:45 am; Publication Date: 11/18/2020]